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| 09/574,327      | 05/19/2000  | Albert Tung-chu Man  | 0100.0000710        | 8261             |

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EXAMINER

ALPHONSE, FRITZ

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2675     | 10           |

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/574,327

Applicant(s)

MAN ET AL.

Examiner

Fritz Alphonse

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2675

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 11-17, 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (U.S. Pat. No. 4,894,718) in view of Perez (6,323,828).

As to claim 1, Hung (fig. 1) shows a method of testing digital graphics data, which provides digital graphics data (note in fig. 1 Hung shows a digital graphics provided by UUT (11, 10) which clearly has digital signal). Hung (fig. 1) shows a method of testing which receives, at a test apparatus, the digital graphics data from a graphics output port of the graphics controller under test (note the digital graphics data is received by the video signals selection multiplexer 1); and calculates at the test apparatus, a

Art Unit: 2675

characteristic value that is based upon the digital graphics data (the characteristic is calculated at CRC circuit 3); and sensing the calculated characteristic.

Hung does not explicitly provide ports or interface to the graphics controller.

However, in the same field of endeavor, Perez (Fig. 2) discloses a system comprising test apparatus having a connector for connection to the video output connector of a computer under test. In addition, Perez discloses a DDC interface (display data channel), which is a serial interface (col.2, lines 59-67; col. 4, lines 18-20).

Therefore, it would have been obvious, to one of ordinary skill in the art at the time of the invention, to modify Hung's system (note Hung's cyclic redundancy check circuit is connected to an expansion slot of the computer and the video output) by specifically providing a system comprising test apparatus having a connector, as disclosed by Perez (see col. 1, lines 23-33). Perez notifies that another way is to use the test unit in a stand-alone process and return a serial signal (col. 3, lines 1-9). Doing so would provide a simple and relatively cheap arrangement for testing the video output of a computer.

As to claims 2-5, Hung (fig. 1) shows a method, wherein the expected characteristic is a calculated value based upon the predetermined type of digital graphics data, and wherein the predetermined type of digital graphics data includes at least one of a red, green, and blue color component (note the RGB and R'G'B' values representing the video signals; col. 2, lines 18-24); and wherein the predetermined type of digital graphics

Art Unit: 2675

data includes a horizontal synchronization component (note the horizontal sync signal Hs; see col. 2, lines 29-35).

As to claim 6, Hung discloses a method, wherein the predetermined type of digital graphics data includes a digital graphics vertical synchronization component (note the vertical synchronization signal Vs; col. 3, lines 28-36).

As to claims 7-8, Hung discloses a method, wherein the expected characteristic is a circular redundancy check (CRC) value, and wherein the predetermined type of digital graphics data is selectable (col. 2, lines 25-28).

As to claim 9, Hung (fig. 1) teaches about a method, wherein the step of providing the calculated characteristic from a test apparatus to a serial interface includes providing the calculated characteristic to the computer (the characteristic is calculated at CRC circuit 3).

Hung does not explicitly teach about comparing the calculated characteristic to the expected characteristic by at least one of the computer and the graphics controller.

However, this limitation is disclosed by Perez (col. 1, lines 48-61). See the motivation above.

As to claims 12 and 16, Hung does not teach about a method wherein the graphics output port includes an output port for a flat panel display. However, the use of graphics output port including an output port for a flat panel display is obvious and very well known in the art.

Art Unit: 2675

As to claim 14, the claim has substantially the limitations of claim 1, therefore, it is analyzed as previously discussed in claim 1 above.

As to claim 17, Hung discloses a method, wherein the steps of determining and providing occur in real-time with respect to the step of receiving (note that Hung discloses that the output of the delay circuit 12, enters the CRC circuit 3 at the same time as the sync clock 26 enters the CRC circuit 3). See col. 4, lines 20-25

As to claim 19, Hung (fig. 1) shows an apparatus for testing digital graphics data, the system comprising: a graphics data analyzer module having an input coupled to the connector (note the video signals selection multiplexer 1 receives the video signals from the video signals connector 10 on the unit under test (UUT 11), and an output (col. 2, lines 64 through col. 3, line 9), said graphics data analyzer being capable of calculating a value from digital graphics data it receives through the connector.

Hung does not explicitly disclose a serial bus interface control module having an input coupled to the output of the graphics data analyzer module, and a serial data port coupled to the connector. However, these limitations are disclosed by Perez (figs. 1-2; col. 1, lines 48-61; col.2, lines 54-67). See the motivation above.

Art Unit: 2675

As to claims 20-22, the claims have substantially the limitations of claims 12 and 15, therefore, they are analyzed as previously discussed in claims 12 and 15 above.

As to claim 23, the claim differs from claim 1 by the additional limitations "determining a first test result based upon the first test indicator and the first graphics data in response to receiving a first test indicator and the first graphics data; and sending the first graphics data to the serial data node in response to determining the first test result ". However, these limitations are disclosed by Hung (see col. 5, lines 54-64; col. 6, lines 3-13).

As to claim 24, method claim 24 corresponds to apparatus claim 19, therefore, it is analyzed as previously discussed in 19 above.

4. Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung in view of Perez as applied to claims 1 and 14 above, and further in view of Applicant Admitted Prior Art (Digital Visual Interface DVI).

As to claims 10 and 18, Hung does not teach about a method, wherein the step of receiving, at a test apparatus includes receiving at a test apparatus the graphics data at a rate greater than 100 MHZ. However, this is obvious and very well known in the art, as disclosed by Applicant Admitted Prior Art (Digital Visual Interface DVI). See DVI (page 11, section 2.2.2. line 1-7).

Art Unit: 2675

***Response to Arguments***

5. Applicant's arguments filed 11/10/03 have been fully considered but they are not persuasive.

Applicant's Remarks (page 6, second and third paragraph) say that Perez does not show a "serial data interface" and argues that Perez does not have the terms "Port" or "interface" and "serial" only shows up in column 5, line 34.

The examiner disagrees with this statement because "Port and interface" are inherently disclosed by Perez. Perez (see col. 2, lines 54-67) teaches about "DDC (data display channel) interface" which is a serial interface serving as a port for transmitting data (col. 4, lines 18-20). The DDC interface is very well known in the art as a port (see "Port" and "Interface" as defined by McGraw-Hill electronics Dictionary). In addition, the DDC interface is a serial interface as evidenced by AN610 (page 1); Gu (U.S. Pat. No. 6,505,266) col. 3, line 25; Dalglish et al. (U.S. Pat. No. 6,373,476) col. 1, line 38; Marsanne et al. (U.S. Pat. No. 5,884,044) col. 1, line 6 and 13.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



Art Unit: 2675

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703) 308-8534.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

**(703) 872-9314 ( for Technology Center 2600 only )**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Art Unit: 2675

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



F. Alphonse

Art Unit: 2675

February 19, 2004



STEVEN SARAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600